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Evaluating the Noise level at Qazvin University Hospital's Intensive Care Units

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Background: Noise at Intensive Care Units (ICU) has an adverse effect on patients and ICU staff. There are some evidences that sleep, recovery from critical illness and average background noise in hospitals as recommended by the US Environmental Protection Agency (EPA) and World Health Organization (WHO) should not exceed 30 A-weighted decibel (dBA) and peaks during night time should be less than 40 dBA. This survey was conducted to measure noise levels and their relationship with the time of the day and location in the ICU.
Objectives: The objectives of this study were to measure noise levels and evaluate their relationship with time of day and location in the ICU.
Materials and Methods: This cross sectional study was conducted in a public university hospital, namely Qazvin University of Medical Sciences, Qazvin, Iran. Noise levels were measured with SLM Sound level meter (model: Tes-1443) during 24 hours with the equivalent sound level (LEQ), maximum (Max) and peak sound pressure based on the ISO 9612.this tool can measure in the range of 30 to 110 dB dynamic network. While frequency A, fast time scale networks with 125 ms fast response microphones were selected. This method says that measuring point must have distance 1.5 meter from the wall at a height of 1.25 m above ground level. At the bedside of patients measurement done by 3 TES model 1353 H Tool by a Taiwanese company.
Results: This survey showed that the Equivalent Sound Level (Leq) in ICU was much higher than the standard level. The Maximum Sound Level (Lmax) in most places was 84 - 89 dBA and just in one measurement in the Internal ICU reached 90 dB. The average level of Leq in ICU was 70 dB.
Conclusions: Equivalent noise level and Noise Criteria in ward remarkably exceeds the standards levels. This condition will be produce Dangerous circumstances for admitted patients in ward.

Keywords: Hospital; Intensive Care Unit; Noise; Criteria